# M 5.3, 80 km ENE of Baiyin, China
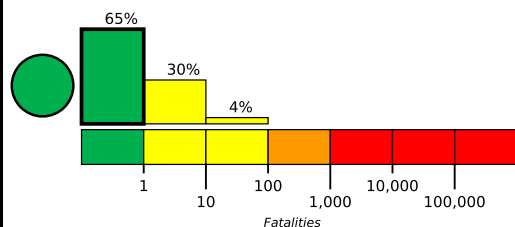
Origin Time: 2023-12-31 07:27:37 UTC (Sun 15:27:37 local)
Location: 36.7711° N 105.0293° E Depth: 10.0 km

**PAGER**
**Version 1**

Created: 10 hours, 1 minute after earthquake

## Estimated Fatalities

65%
30%
4%

1    10    100    1,000    10,000    100,000
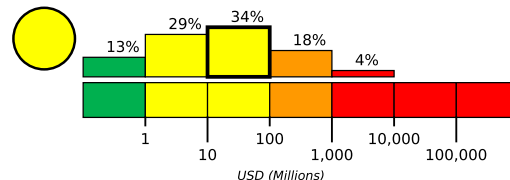*Fatalities*

Yellow alert for economic losses. Some damage is possible and the impact should be relatively localized. Estimated economic losses are less than 1% of GDP of China. Past events with this alert level have required a local or regional level response.

Green alert for shaking-related fatalities. There is a low likelihood of casualties.
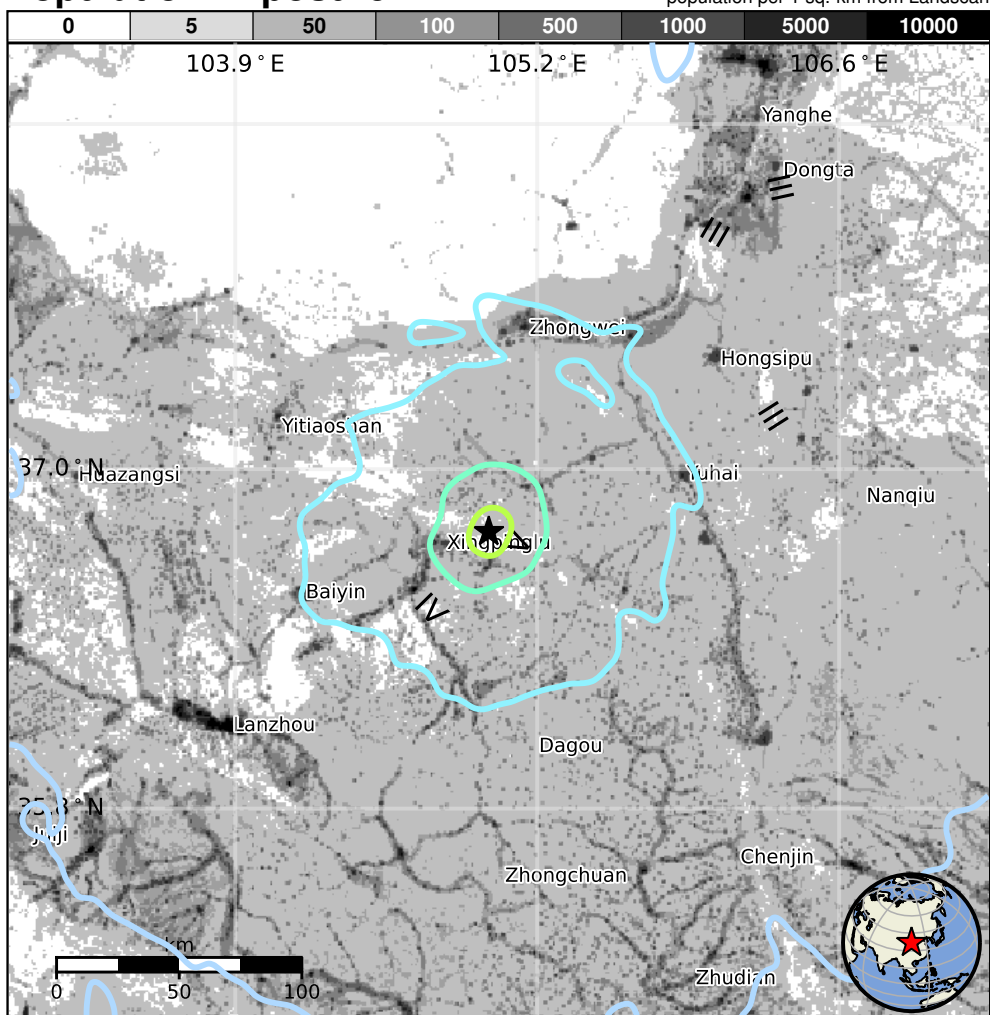
## Estimated Economic Losses

13%    29%    34%    18%    4%

1    10    100    1,000    10,000    100,000
*USD (Millions)*

## Estimated Population Exposed to Earthquake Shaking

| ESTIMATED POPULATION EXPOSURE (k=x1000) | | –* | 16,954k | 1,988k | 232k | 16k | 0 | 0 | 0 | 0 |
|---|---|---|---|---|---|---|---|---|---|---|
| ESTIMATED MODIFIED MERCALLI INTENSITY | | I | II-III | IV | V | VI | VII | VIII | IX | X+ |
| PERCEIVED SHAKING | | Not felt | Weak | Light | Moderate | Strong | Very Strong | Severe | Violent | Extreme |
| POTENTIAL DAMAGE | Resistant Structures | None | None | None | V. Light | Light | Moderate | Mod./Heavy | Heavy | V. Heavy |
| | Vulnerable Structures | None | None | None | Light | Moderate | Mod./Heavy | Heavy | V. Heavy | V. Heavy |

*Estimated exposure only includes population within the map area.

## Population Exposure

population per 1 sq. km from Landscan

| 0 | 5 | 50 | 100 | 500 | 1000 | 5000 | 10000 |
|---|---|---|---|---|---|---|---|

103.9° E      105.2° E      106.6° E



## Structures

Overall, the population in this region resides in structures that are vulnerable to earthquake shaking, though resistant structures exist. The predominant vulnerable building types are adobe block and unreinforced brick with mud construction.

## Historical Earthquakes

| Date (UTC) | Dist. (km) | Mag. | Max MMI(#) | Shaking Deaths |
|---|---|---|---|---|
| 2003-11-13 | 251 | 5.1 | VI(45k) | 1 |
| 1990-10-20 | 120 | 5.7 | VII(8k) | 2 |
| 1995-07-21 | 170 | 5.6 | VII(7k) | 14 |

## Selected City Exposure

from GeoNames.org

| MMI | City | Population |
|---|---|---|
| **V** | **Xingpinglu** | **<1k** |
| IV | Wulan | <1k |
| IV | Sanhe | <1k |
| IV | Binhe | <1k |
| **IV** | **Zhongwei** | **<1k** |
| IV | Ning'an | <1k |
| **IV** | **Baiyin** | **189k** |
| **III** | **Lanzhou** | **2,628k** |
| III | Yinchuan | 475k |
| III | Pingliang | 108k |
| III | Linxia Chengguanzhen | 202k |

bold cities appear on map.          (k = x1000)

Event ID: us6000m0ty